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ASSESSMENT OF BIOMASS AND CARBON LITTERFALL IN THREE CHESTNUT HIGH FOREST STANDS IN NORTHERN PORTUGAL

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Litterfall in three high forest chestnut stands, located in different soil types, of 53, 71 and 64 years old, in Marão, Padrela and Bornes, respectively (northern Portugal), was collected last Autumn. Circular litter traps which cover a surface area of 1 m² each were installed in these chestnut stands. The litterfall was separated into leaves, branches, fruits and burs. All litter fractions were dried to constant weight at 70°C. The total amount of litter in the three stands was 4.2, 4.6 and 4.0 Mg ha⁻¹ year⁻¹ in Marão, Padrela and Bornes, respectively. Leaves are the main constituents of the total biomass return by litterfall contributing to 79.4% in Marão, 69.8% in Padrela and 78% in Bornes. The corresponding amounts of other litter fractions in these three locations were respectively: Fruits 6.4%, 12.4% and 8.9%; Branches 6.4%, 4.0% and 4.7%; Burs 7.8%, 13.8% and 8.3%. Carbon in the litterfall was similar in the three stands, about 2.3 Mg ha⁻¹ year⁻¹. This methodology will be continued during the present year. The net primary productivity PPN based on methodology proposed by Gower et. Al (1997) will be evaluated. Parallel to this study we intend to analyse the progressive nutrient returned to the forest soil to evaluate the sustainability of the chestnut ecosystems.

VALUTAZIONE DELLA BIOMASSA E DEL CICLO DEL CARBONIO IN TRE CASTAGNETI DEL PORTOGALLO DEL NORD

Sono stati presi in considerazione tre castagneti di 53, 71 e 64 anni, rispettivamente in Marão, Padrela e Bornes nel Portogallo del Nord.

Nel lavoro si riportano i risultati ottenuti nei tre siti e ci si propone di proseguire analizzando la quantità di nutrienti progressivamente restituiti al terreno per valutare la sostenibilità degli ecosistemi castanicoli.

